DEPARTMENT OF ECOLOGY

October 27, 2003

TO: David Knight, Unit Supervisor, Water Quality Program, ERO
Jim Bellatty, Section Manager, Water Quality Program, ERO

THROUGH: Karol Erickson, Unit Supervisor, Environmental Assessment Program

FROM: Jim Carroll, Environmental Assessment Program

SUBJECT: **Completed "Moses Lake Total Maximum Daily Load Phosphorus Study"**

Attached is our completed technical report on the Moses Lake TMDL Phosphorus Study. This report incorporates all review comments made to Ecology which are summarized in the "Response to Review Comments" memo dated October 16, 2002 (also attached).

In addition to addressing the review comments, this report reflects calibration improvements of the CE-QUAL-W2 water quality model, taking advantage of the latest model version, to estimate TP fate and transport in Moses Lake. The calibration improvements did not change the report conclusions.

This report recommends establishing a seasonal water quality total phosphorus (TP) criterion of 50 ug/L for Moses Lake. A hydrodynamic water quality model was developed and used to evaluate the capacity of the lake to assimilate TP loads and meet the recommended water quality criterion during a critical season. The lake model showed that a 35% load reduction in TP from Rocky Ford Creek, Crab Creek, Rocky Coulee Wasteway baseflow, and groundwater entering the lake would meet the proposed TP criterion 90% of the time (or with a 10% exceedance probability).

If you have questions, please contact me at (360) 407-6196 or jica461@ecy.wa.gov.

JC:jl
Attachment